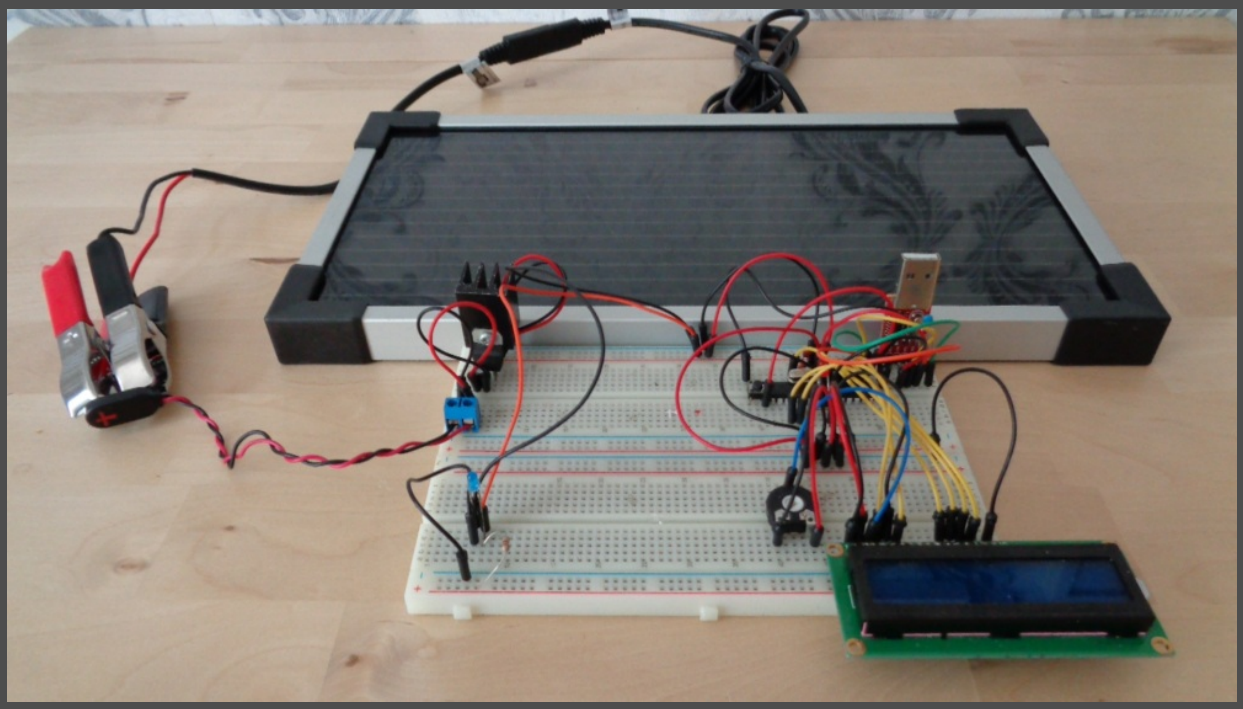
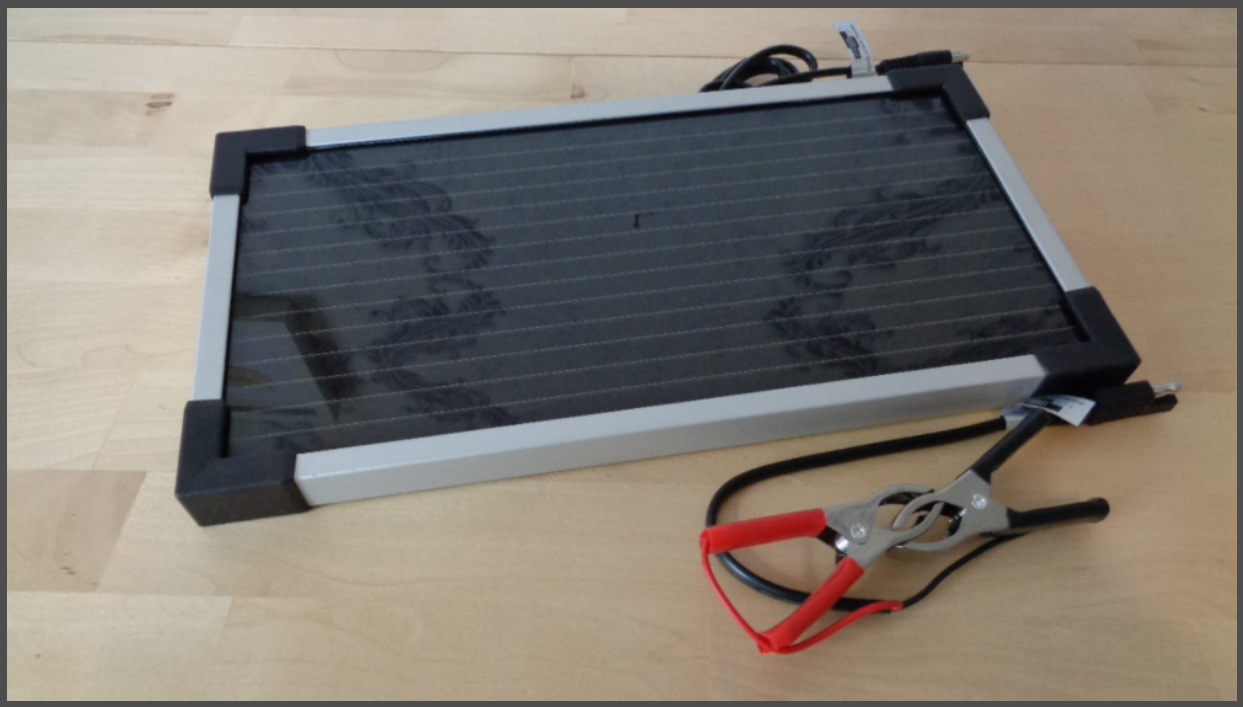


Cyberdeck V5

Preface

The Cyberdeck project was now almost a whole winter in the closet and this has the following reasons. In winter I prefer to work on my programming projects and finish them. In the summer then the hardware. But to be honest, I had a lot of other projects I was working on and just no time. As I already noticed in Cyberdeck version 4, it bothered me to use disposable batteries. This is neither environmentally friendly nor logical, because the Cyberdeck should become a portable computer and they should work as independently as possible. Disposable batteries are bad to the environment and will only last for a limited time. Solar panels, on the other hand, supply technical devices with solar power and are therefore more independent. This also saves me a lot of money. As we can see, solar panels have quite a few advantages over batteries and as long as the sun is shining, there are no problems.

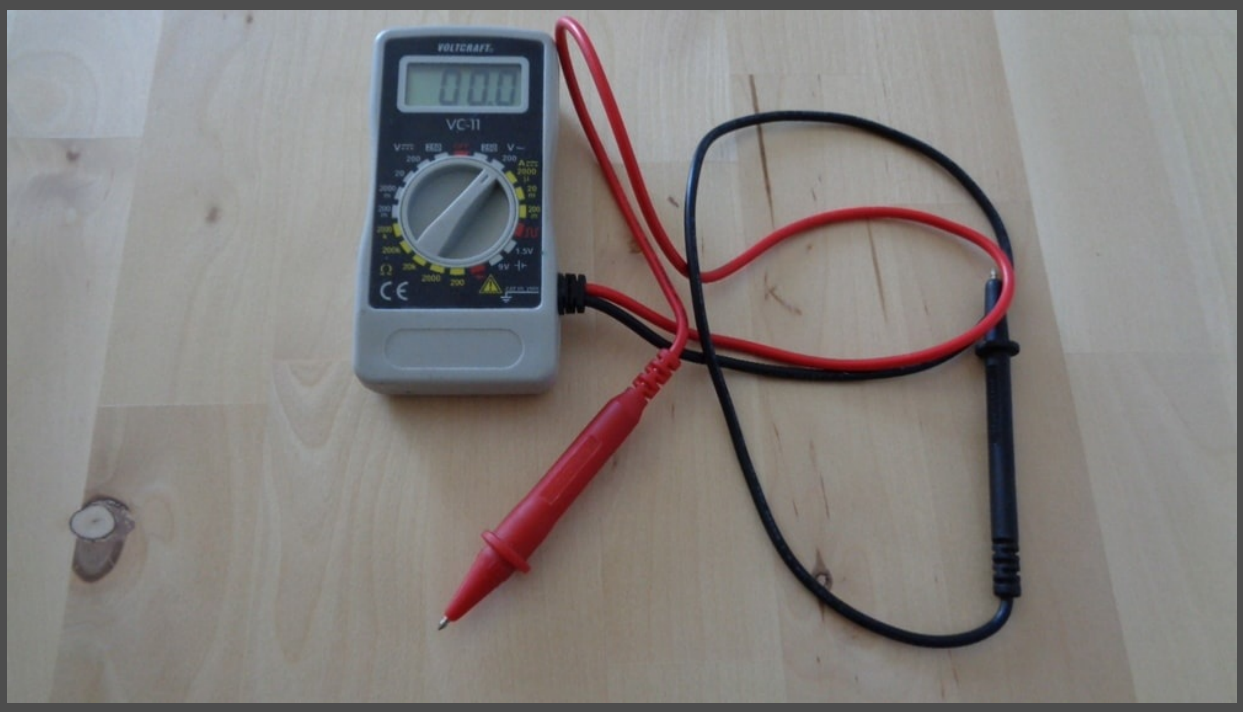
Materials



Amorphous solar panel TPS-103 2W/6V

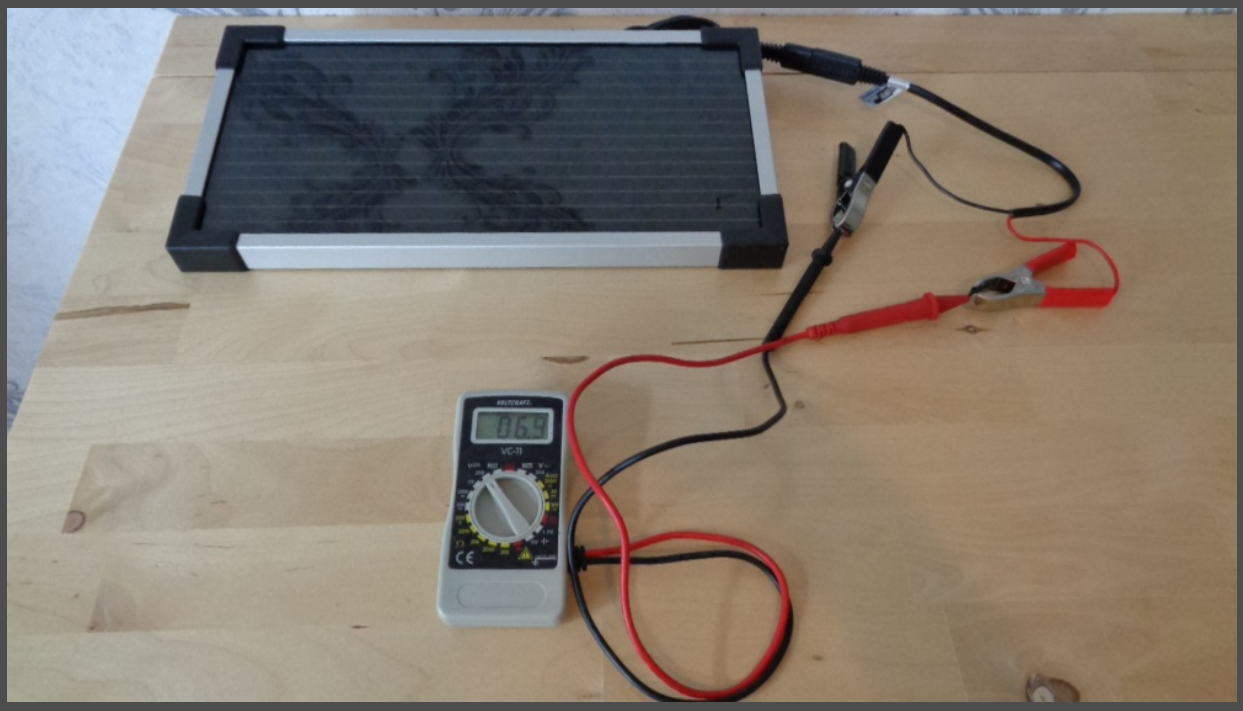
Nominal Voltage	6 V
Nominal Current	286 mA

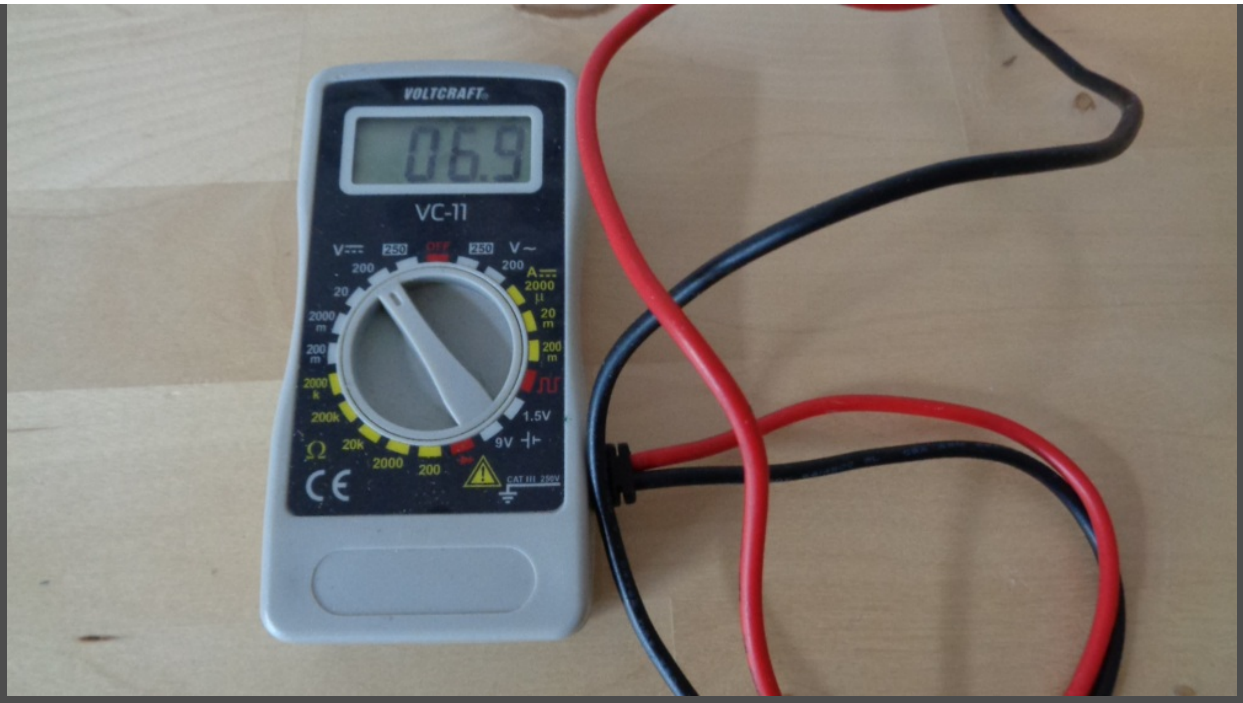
Open Sircuit Voltage	11 V
Short Circuit Current	300 mA
Protection Class	IP44
Solar Cell	Amorphous
Operating Temperature	-40 to + 80°C
Operating Humidity	Up to 75%
Cable Length	2 m
Dimension (W x H x D)	320 x 160 x 21 mm
Weight:	0,87 kg



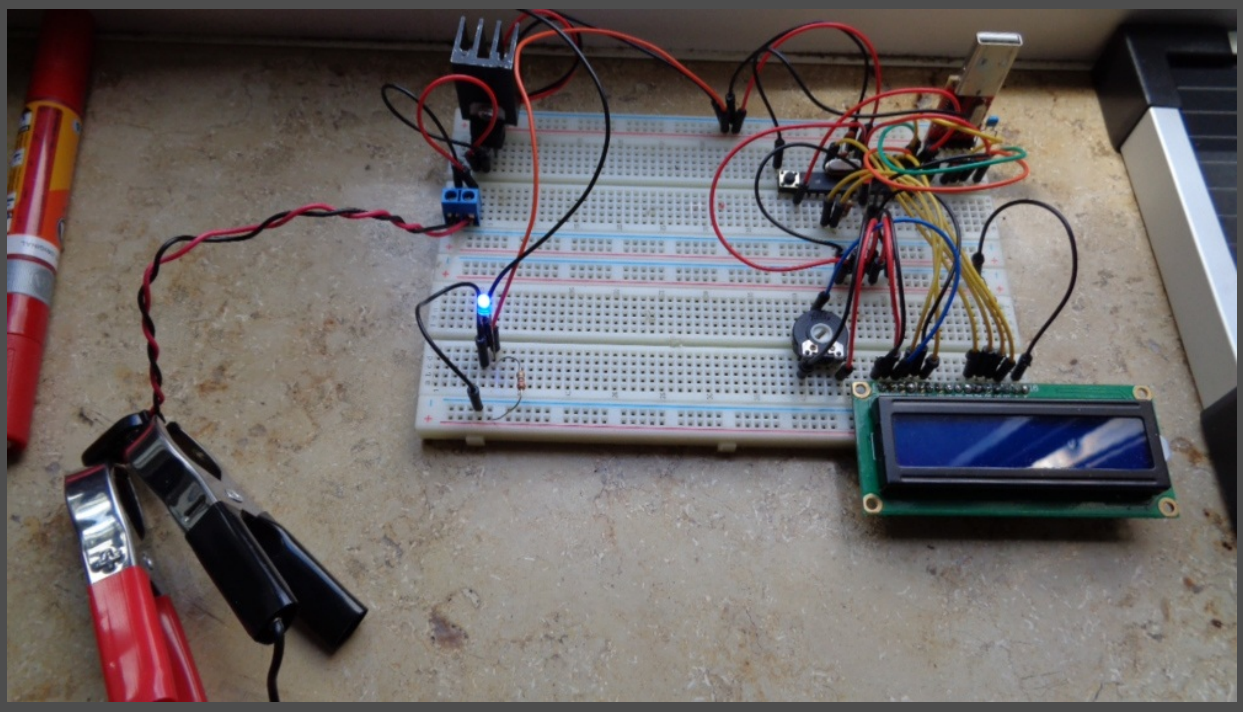
The electrical engineer's best friend. The multimeter.

Realisation

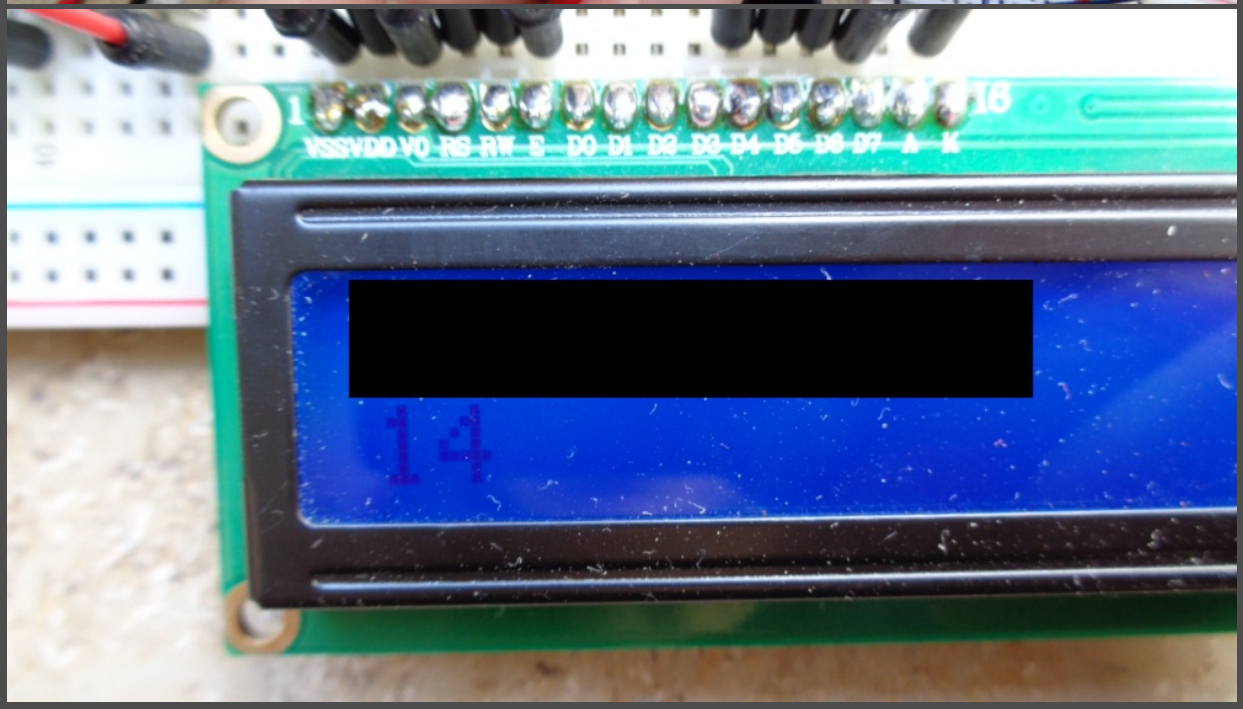




First we test with the multimeter whether the solar panel works at all. It forces 06.9-07.0 V in the shadow and 09.0-11.0 V in the sun. Since we did everything in the last version, we don't have to add anything else to our circuit.



We remove the clip from the battery holder and continue to use it. Since the solar panel has very practical metal clips, we don't have to do that anymore. Since I always mix up plus and minus, I have painted a red cross on the clip with a red lacquer pen, so that I do not get confused while tinkering.



Fortunately, the sun shone strong enough at the right moment to light up the LCD display. The LED in the SC posture was lit all the time. With it everything works and with very few and simple handles we got rid of the batteries.

Conclusion

The solar panel can't power the Cyberdeck on its own and that's not the goal, because I'll build a battery into the circuit later. Whenever I don't need the Cyberdeck then it can charge the battery. Since the technology uses very little power, I have a very long battery life. Also the solar panel only cost 15,00€ and is cheaper than buying new batteries every time. For the next version I have some ideas that I want to install. A TFT screen, a much better battery and a keyboard. I don't know exactly how I want to implement this yet, but I will work on the project more often now. Especially because climate change is supposed to give us such a hot summer.